

WHAT IS CLAIMED IS:

1. An automated machine for an automated document handling system for dispensing cash to a system user comprising:

5 a card receiver for receiving a card having an identification password associated therewith for identifying the user as a qualified user;

a document receiver in the machine for receiving a document inserted by the system user into the machine for which cash is expected to be dispensed;

10 a document scanner for scanning the received document;

a processor for receiving the document scanner input and generating an image thereof;

15 a display device coupled to the processor for displaying an image from the scanned document to the system user;

an entering device coupled to the processor for the system user to enter an amount relative to the amount on the document;

20 wherein the processor ascertains if an apparent signature from the document image is on the signature line of the document image in order to validate the document; and

25 a cash dispenser coupled to the processor operable after the user has been qualified and the document has been validated by the processor to dispense cash automatically to the system user.

2. A machine in accordance with Claim 1 further comprising:

5 a MICR reader for reading a MICR amount line on the document and comparing the amount entered by the user to the amount read by the MICR reader.

3. A machine in accordance with Claim 1 further comprising:

an endorsement validator for interpreting an endorsement area of the stored image of the document to ascertain if an endorsement is present for validation of the document prior to completing the transaction.

4. A machine in accordance with Claim 3 wherein the display device comprises a touch screen coupled to the processor, a bounding device operable by a touch on the screen to cause a magnification of the portion of the displayed document image being read to fill a larger area of the touch screen.

5. A machine in accordance with Claim 4 further comprising:

a manually operable acceptor coupled to the processor for the system user to signify acceptance by the user of the data identified as associated with the displayed bounding box.

6. A machine in accordance with Claim 1 wherein the processor identifies a courtesy amount recognition (CAR) line and legal amount recognition (LAR) line of the document image; and

based upon the likelihood of a match of the CAR amount relative to the LAR amount provides a validation of the document.

7. A machine in accordance with Claim 1 wherein the document is a check and wherein a magnetic ink character recognition line (MICR) is on the check; said machine further comprising:

a magnetic ink character reader coupled to the processor for magnetically reading that the MICR line region, the processor determining whether a genuine

MICR is on the check, the processor further verifying that an account number and a bank number from the MICR line are valid prior to dispensing cash to the system user.

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8. A machine in accordance with Claim 7 wherein the processor causes the machine to prompt the system user to perform manipulations on the machine relative to the document being processed.

9. A machine in accordance with Claim 8 wherein the evaluator of the processor is operated in a different mode in response to the user selecting a kind of document being processed from a list of several documents.

10. A machine in accordance with Claim 8 wherein the processor responds to prompted user inputs is operable to locate data fields on the document image.

11. A machine in accordance with Claim 10 wherein the document image is an image of a bill for payment.

12. A machine in accordance with Claim 11 wherein the user is prompted to enter into the entry device the amount of the bill and amount to be paid from a check with a remainder of the check amount being dispensed to the user in cash; and

a change device puts at least a portion of the remainder on a card of the user.

13. A machine in accordance with Claim 12 wherein the image from the document includes:

a user account number printed on the bill; the amount due; and the date of the bill.

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14. An automated machine for an automated document handling system for dispensing cash to a system user comprising:

5 a card receiver for receiving a card having an identification password associated therewith for identifying the user as a qualified user;

a document receiver for receiving a document inserted by user into the machine for which cash is expected to be dispensed;

10 a document scanner for scanning the document;

a processor coupled to the document scanner for generating a document image;

15 a display device coupled to the processor to display a scanned image from the document to the machine user;

an entering device coupled to the processor for the system user to enter an amount relative to the document;

20 wherein the processor interprets a courtesy amount recognition line (CAR) and a legal amount recognition line (LAR) on the document image;

25 wherein the processor compares the CAR relative to the LAR and the amount entered by the system user relative to the LAR and CAR and provides a confidence level, the confidence level being compared to a threshold to validate the document and to cause a dispensing of cash; and

30 a cash dispenser coupled to the processor operable after the processor qualifies the user and after the processor validates the document to dispense cash automatically to the system user.

15. A system in accordance with Claim 14 wherein the system user provides a biometric input device coupled to the processor and a biometric identifier; and

5       the processor evaluates the biometric  
identification from the user against stored biometric  
data relative to the user to qualify the user prior to  
dispensing cash to the user.

16. A method for automatic banking for dispensing  
cash to a system user without a teller, the method  
comprising the steps of:

5       providing an automated machine having a card  
receiver;  
      inserting a card having an identification password  
associated therewith identifying the user as a  
qualified user into the machine;

10       inserting a document into the machine and scanning  
the document to produce a second document image;

      displaying an image from the scanned document to  
the machine user;

      entering by the user into the machine an amount  
relative to the amount on the document;

15       reviewing the signature line of the document for  
the presence of a signature in order to validate the  
document; and

      dispensing from a cash dispenser in the machine  
after qualifying the user and validation of document.

17. A method in accordance with Claim 16 wherein  
a MICR amount line appears on the document and  
including:

5       reading the MICR amount line and comparing the  
amount entered by the user to the MICR amount read.

18. A method in accordance with Claim 16  
including:

      interpreting an endorsement area of the signature  
document image to ascertain if an endorsement is

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5 present for validation of the document prior to  
completing the transaction.

19. A method in accordance with Claim 18  
including:

bounding data on the displayed document image and  
magnifying the displayed data being bounded to fill a  
5 display boundary area.

20. A method in accordance with Claim 19  
including:

accepting from the user the bounded data to be  
processed.

21. A method in accordance with Claim 16  
including:

interpreting a courtesy amount recognition (CAR)  
line and legal amount recognition (LAR) line from the  
5 second document image; and

comparing the CAR relative to the LAR to provide a  
validation of the document.

22. A method in accordance with Claim 16 wherein  
the document is a check and wherein a magnetic ink  
character recognition line (MICR) is on the check;  
further comprising:

5 reading and verifying that the MICR line is  
written in magnetic ink;

reading and verifying an account number and a bank  
number from the MICR; and

10 verifying that the read bank and account numbers  
are valid prior to dispensing cash to the user.

23. A method in accordance with Claim 22  
including:

prompting the user to perform manipulations on the machine relative to the document being processed.

24. A method in accordance with Claim 23 including:

selecting the kind of document being processed from a list of several documents being displayed to the user.

25. A method in accordance with Claim 23 including:

prompting the user to locate data fields on a document image; and  
5 bounding a data field on the document image for interpretation.

26. A method in accordance with Claim 25 including paying a bill from the machine and an inserted check.

27. A method in accordance with Claim 26 including:

prompting the user to enter the amount of the bill and amount to be paid from a check with a remainder of  
5 the check amount being dispensed to the user in cash.

28. A method in accordance with Claim 27 including:

interpreting a user's account number printed on the bill; the amount due; and the date of the bill.

29. A method in accordance with Claim 16 including the step of:

writing change onto a card in addition to dispensing cash.

30. A method for handling documents and for dispensing cash to a user from a machine without a teller, said method comprising:

5 inserting a card having an identification password associated therewith for identifying the user as a qualified user into the machine;

receiving a document inserted by user into the machine in exchange for which cash is expected to be dispensed;

10 scanning the inserted document;

displaying a scanned image from the document to the machine user;

manually entering by the user into the machine an amount relative to the document;

15 machine interpreting a courtesy amount recognition line (CAR) and a legal amount recognition line (LAR) from the second document image;

and matching the amount entered by the machine user to the interpreted LAR and CAR amounts;

20 determining a confidence level; comparing the confidence level to a threshold to determine if it is sufficient to validate the document and to cause a dispensing of cash; and

25 dispensing cash from the machine after qualifying the user and after validating the document.

31. A method in accordance with Claim 30 including:

taking biometric data from the user at the machine; and

5 evaluating the biometric data from the user against stored biometric data relative to the user for qualifying the user prior to dispensing cash to the user.



32. An automated machine for an automated document handling system for making bank deposits with a monetary document comprising:

5 a card receiver for receiving a card having an intelligence associated therewith for identifying the user as a qualified user;

a document receiver in the machine for receiving the monetary document inserted by the system user into the machine from which a deposit is being made;

10 a document scanner for scanning the received document;

a processor for receiving the document scanner input and generating an image thereof;

15 a display device coupled to the processor for displaying an image from the scanned monetary document to the system user;

an entering device coupled to the processor for the system user to enter an amount to be deposited;

20 the processor reviewing images from a legal amount recognition line and a courtesy amount recognition line for a confidence level for acceptance of the user-entered amount;

25 the processor ascertaining if an apparent signature from the document image is on the signature line of the document image in order to validate the document; and

30 an acceptance of deposit indicator operable by the processor after qualification of the user and validity of the document to indicate proof of deposit to the system user.

33. A machine in accordance with Claim 32 further comprising:

5 a MICR reader for reading a MICR amount line on the document and comparing the amount entered by the user to the amount read by the MICR reader.

34. A machine in accordance with Claim 32 wherein a locating device is provided to define coordinates on the image and the device is operable by the user to locate areas on the document image for the processor to review.

35. A machine in accordance with Claim 32 wherein the device comprises a touch screen and the user touches the screen at areas on the document image for one or more of the CAR line, LAR line, date line, MICR line, name line and address line.

36. A machine in accordance with Claim 35 wherein the processor comprises an arbitrator for comparing results from an analysis of the CAR line, LAR line, and the user-entered amount.

37. A machine in accordance with Claim 32 comprising ICR engines that specialize in recognition of a particular portion of the document image;

a CAR engine that provides confidence levels with respect to the CAR line; and

a LAR engine that provides confidence levels with respect to the CAR line.

38. A method of making bank deposits with a monetary transaction document in an automated system without the use of a teller, the method comprising the steps of:

providing an automated machine having a card receiver for receiving a card having an intelligence associated therewith for identifying the user as a qualified user;

inserting a monetary transaction document into the automated machine;

scanning the received document and generating an image therefrom;

displaying an image from the scanned monetary transaction document to the system user;

15 entering an amount by the user into the machine, which amount is to be deposited;

reviewing images from a legal amount recognition line and from a courtesy amount recognition line and reviewing the user-entered amount in a processor to  
20 provide a confidence level;

ascertaining if an apparent signature from the document image is on the signature line of the document image in order to validate the document;; and

providing an acceptance of deposit to the user  
25 operable by the processor after qualification of the user and an acceptable confidence level with respect to the document.

39. A method in accordance with Claim 38 further comprising the further step of:

reading a MICR amount line on the document and reviewing the amounts entered by the user and read by a  
5 MICR reader to ascertain if a sufficient confidence level is present.

40. A method in accordance with Claim 38 including the further step of:

defining coordinates on the image by user and locating areas on the document image for the processor  
5 to review.

41. A method in accordance with Claim 38 including the further step of:

providing a touch screen, touching the screen at areas on the document image for one or more of the CAR

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5 line, LAR line, date line, MICR line, name line and address line.

42. A method in accordance with Claim 41 including the further step of arbitrating results from an analysis of the CAR line, LAR line, and the user-entered amount.

43. A method in accordance with Claim 38 including the step of:

using ICR engines that specialize in recognition of a particular portion of the document image;

5 using a CAR engine that provides confidence levels with respect to the CAR line; and

using a LAR engine that provides confidence levels with respect to the LAR line.

44. A method in accordance with Claim 38 including the step of:

reviewing a MICR line on the monetary transaction document; and

5 reviewing a date on the transaction for meeting rules with respect to antedating or post-dating.

45. A method in accordance with Claim 38 including the step of:

dispensing in cash a portion of the amount to the user from the amount being deposited; and

5 writing any change from the portion being dispensed onto a card of the user.

46. An automated banking system for receiving cash from a user and for dispensing cash to a user comprising:

an automated machine having a card receiver for  
5 receiving a card which assists in identifying a user as

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being qualified to perform transactions with the machine;

a document receiver for receiving a monetary transaction document to be cashed;

10 a device for interpreting the amount on the monetary transaction document;

a signature analyzer for analyzing that a signature is present at the desired position on the monetary transaction document;

15 a cash dispenser in the automated machine for dispensing cash to the user;

an entering device for the user to enter the amount of the monetary transactional document;

a cash receiver for receiving cash and a cash  
20 analyzer for analyzing the amount of cash received from the user;

a cash storage device associated with the machine for receiving the cash being deposited by the user; and

a transactional operator for operation by the user  
25 to cause a dispensing of cash to the user or to perform a transaction upon deposit of sufficient cash by user for the requested transaction.

47. A system in accordance with Claim 46 wherein: the document being cashed is a money order.

48. A system in accordance with Claim 46 wherein: the transaction is payment of a bill from a provider;

the device for interpreting the amount includes a  
5 scanner to scan the provider's account number and the user's identification from the bill.

49. A system in accordance with Claim 48 wherein:

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the cash receiver adds the cash bills received and forwards signals representing the total cash being deposited; and

- 5 a comparator compares the cash being deposited relative to the amount scanned from the bill by the scanner to ascertain if the total cash covers the bills and a transaction fee.

50. A method of automated banking for receiving cash from a user or for dispensing cash from the machine to the user comprising:

- providing an automated machine having a card  
5 receiver for receiving a card, which assists in identifying the user as being qualified to use the machine;  
inserting a signed monetary transactional document into the machine;  
10 providing a cash dispenser for dispensing cash to the user operable if needed;  
depositing cash into the machine and automatically calculating the amount of cash which is being deposited into the machine;  
15 analyzing the monetary transaction document for the presence of a signature;  
entering manually by the user the amount of the monetary transaction document;  
inquiring of the user what transaction is to be  
20 performed with the deposited cash or from the signed monetary transaction document; and  
automatically deducting a fee for the transaction and displaying to the user the amount of the transaction fee.

51. A method in accordance with Claim 46 further comprising:

inserting a document to be cashed into the document receiver;

- 5 reading the cursive signature on the document;  
verifying the signature as a qualified signature;  
and  
dispensing cash to the user.

52. A method in accordance with claim 50 further comprising:

paying a bill by inserting the bill into the machine;

- 5 ascertaining the bill provider's account number and user's identification account number from the bill;  
and

sending signals over a network to cause a transfer of funds to the account of the bill provider.

53. A method in accordance with Claim 50 further comprising:

- recording the transaction on a storage medium; and  
issuing a receipt to the user with a receipt  
5 printer.

54. A method in accordance with Claim 50 further comprising:

- generating change between the amount of transaction and the amount of cash or the amount  
5 written on through the medium; and

further comprising writing change onto a card for the user.

55. A method of operating an unattended banking machine for performing a number of banking transactions and other transactions by a user, comprising:

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displaying to the user a list of selected, transactional options including withdrawal of cash option, a deposit of cash option, a cashing check option, a cashing money order option, a buying money order option, a wire transfer screen option, a bill payment option and purchasing option;

15        depositing a monetary transaction document in the  
     machine,

dispensing cash to the user if the user is entitled to cash and if the document and the user meet sufficient security confidence levels; and

56. A method in accordance with Claim 55 wherein the user selects a dispensing and purchasing option and further comprising:

dispensing the item to the user through the machine upon verification of sufficient payment by the qualified user of the machine.

57. A method in accordance with Claim 55 including the step of:

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displaying on a display screen various transactional options; and

- 5 manually selecting one transaction to be performed from the list of transactional options available to the user.

58. A method in accordance with Claim 55 wherein the document is a check and further comprising:

reading the magnetic ink character recognition data with respect to the bank issuing the check; and

- 5 communicating through the communication network to the identified bank.

59. A method in accordance with Claim 55 wherein the document being received is a money order, and further comprising examining a cursive signature on the back of the money order prior to validation and

- 5 dispensing of any cash to the user.

60. A method in accordance with Claim 55 wherein the user has selected a bill paying operation further comprising:

receiving the bill document;

- 5 scanning the bill document for the amount due to the provider;

communicating the modem to the bill issuer's bank account the amount of payment being made by the user;

- 10 generating a receipt showing an amount paid for the bill to the user;

storing the bill in a storage device; and

providing a transactional tag with respect to the bill so that the transaction can be later reviewed, if necessary.

61. A method in accordance with Claim 55 further comprising:

storing money order blanks in the machine;  
generating signals to cause a printer to print the  
5 amount to be paid on the money order; and  
dispensing the printed money order to the machine  
user.

62. A method in accordance with Claim 55  
including the step of:

performing a biometric analysis of a biometric  
characteristic of the user relative to a previously  
5 stored biometric characteristic of the user for  
qualifying the user.

63. A method in accordance with Claim 55  
including the step of:

prompting the user to provide a bounding box about  
a scanned portion of the monetary transaction document.

64. A method in accordance with Claim 63  
including the step of:

touching a touch screen in response to a  
prompting.

65. A method in accordance with Claim 64  
including the step of:

magnifying data within the boundary box to aid in  
elimination of unwanted data.

66. A system for automatic cashing of checks or  
making remittance transactions without the aid of bank  
teller or the like, comprising:

an automated machine for receiving a document  
5 having data thereon for the transaction;  
a scanning device in the machine for scanning the  
document and providing an image from the document to  
the user;

10 a user validator for validating the user with a  
security confidence level;  
a document validator for validating the document  
with a security confidence level;  
a manual entry device operable by the user to  
enter an amount with respect to the document and the  
15 transaction to be performed;  
a cash dispenser associated with the machine for  
dispensing cash when the user and document have  
sufficient security confidence levels; and  
a boundary device operable by the user to locate  
20 data on the transaction document for automatic  
analysis.

67. A system in accordance with Claim 66 wherein:  
the boundary device includes a user operated  
magnification to magnify the data in a bounding box.

68. A method in accordance with Claim 67 wherein:  
a touch screen is touched by the user to create  
the bounding box and to magnify the data in the  
bounding box.

69. A system for automatic cashing of checks or  
making remittance transactions without the aid of bank  
teller or the like, comprising:

5 an automated machine for receiving a document  
having data thereon for the transaction;  
a scanning device in the machine for scanning the  
document and providing an image from the document to  
the user;  
a user validator for validating the user with a  
10 security confidence level;  
a document validator for validating the document  
with a security confidence level;

15 a manual entry device operable by the user to  
enter an amount with respect to the document and the  
transaction to be performed;

a cash dispenser associated with the machine for  
dispensing cash when the user and document have  
sufficient security confidence levels; and

20 a card writing device for adding a change amount  
onto a card to complete the transaction.

70. An apparatus in accordance with Claim 69  
wherein the cash dispenser comprises bins for holding  
only cash of certain large denominations; and

5 a processor in the system causes the dispensing of  
large denominations of cash from the bins and a  
dispensing of the card after writing the smaller change  
amount on the card.

71. A system for automatic cashing of checks or  
making remittance transactions without the aid of bank  
teller or the like, comprising:

5 an automated machine for receiving a document  
having data thereon for the transaction;

a scanning device in the machine for scanning the  
document and providing an image from the document to  
the user;

10 a user validator for validating the user with a  
security confidence level;

a document validator for validating the document  
with a security confidence level;

15 a manual entry device operable by the user to  
enter an amount with respect to the document and the  
transaction to be performed;

a cash dispenser associated with the machine for  
dispensing cash when the user and document have  
sufficient security confidence levels; and

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a document validator comprises a device for analysis of the check issuer's account number as authorized account.

74. A system in accordance with Claim 73 wherein the document validator comprises a MICR reader to detect that the MICR line is written with magnetic material.

75. A method for automatic cashing of checks or making remittance transactions without the aid of bank teller or the like, comprising the steps of:

providing an automated machine for receiving a  
5 document having data thereon for the transaction and a processor for the system;

scanning the document and providing an image from the document to the user;

validating with the processor that the user has a  
10 sufficient security confidence level;

validating with the processor the document as having a sufficient security confidence level;

operating a manual entry device at the machine to enter an amount with respect to the document and the  
15 transaction to be performed; and

bounding data on the transaction document by operations of the user to locate data for the processor for an automatic analysis by the processor; and

dispensing cash when the user and document have  
20 validated security confidence levels.

76. A method in accordance with Claim 75 including the step of:

magnifying the data in the bounding box.

77. A method in accordance with Claim 76 including the step of:

touching a touch screen to create the bounding box and to magnify the data in the bounding box.

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providing an automated machine for receiving a  
5 document having data thereon for the transaction and a  
processor for the system;

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    validating with the processor that the user has a
10 sufficient security confidence level;

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operating a manual entry device at the machine to enter an amount with respect to the document and the transaction to be performed; and

writing change on a card of the user to complete  
20 the cash transaction.

5        operating the processor to cause a dispensing of  
the large denominations of cash from the bins; and  
      dispensing of the card from the machine after  
writing the smaller change amount on the card.

providing an automated machine for receiving a  
5 document having data thereon for the transaction and a  
processor for the system;

scanning the document and providing an image from the document to the user;

validating with the processor that the user has a  
10 sufficient security confidence level;

validating with the processor the document as having a sufficient security confidence level;

operating a manual entry device at the machine to enter an amount with respect to the document and the  
15 transaction to be performed; and

analyzing a biometric characteristic of the user as part of the validation of the user; and

dispensing cash when the user and document have validated security confidence levels.

81. A method in accordance with claim 80 including the steps of:

using an engine for extraction of data at a legal amount recognition line (LAR) and using an engine for  
5 extraction of data at a courtesy amount recognition line (CAR) to provide security confidence levels that CAR and LAR match one another.

82. A method for automatic cashing of checks issued by a previously authorized issuer entity without the aid of bank teller or the like, comprising the steps of:

5 providing an automated machine for receiving a document having data thereon for the transaction and a processor for the system;

scanning the document and providing an image from the document to the user;

10 validating with the processor that the user has a sufficient security confidence level;

validating with the processor the document as having a sufficient security confidence level;

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operating a manual entry device at the machine to  
15 enter an amount with respect to the document and the  
transaction to be performed; and

reading a MICR line to establish the cash amount  
of the monetary transaction document generated by the  
authorized issuer;

20 analyzing the issuer's account number as being an  
authorized account for the issuer entity; and

dispensing cash when the user and document have  
validated security confidence levels.

83. A method in accordance with Claim 82  
comprising:

detecting that the MICR line is written with  
magnetic material.

84. A method for automatic handling of checks  
without the aid of bank teller or the like, comprising:

providing an automated machine for receiving a  
document having data thereon for the transaction and a  
processor for the system;

5 scanning the document to produce a document image  
and dissecting the image;

entering the check amount by the user;

validating with a processor that the user has a  
sufficient security confidence level;

10 performing several field evaluations from the  
dissected image with respect to the amount of the  
check;

making a list of amount results ranked by  
confidence level from a plurality of field evaluations;

15 providing rules for arbitration of the check  
transaction;

arbitrating a transaction in response to the user-  
entered check amount and the respective field amount  
results using the rules; and

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20 performing the transaction when the transaction  
arbitration has been satisfied.

85. A method in accordance with Claim 84 wherein  
performing several field evaluations includes:

25 extracting a dissected image of a legal amount  
recognition line (LAR) and  
extracting a dissected image of a courtesy amount  
recognition line (CAR).

86. A method in accordance with Claim 84 further  
comprising:

30 making a remittance transaction with the check;  
dissecting an image of an associated remittance  
document;

35 making a list of amount results ranked by  
confidence level with respect to the amount on the  
associated remittance document; and  
providing the amount results of the associated  
remittance document for arbitration prior to making the  
remittance transaction.

87. A method in accordance with Claim 85 wherein  
40 performing the transaction comprises the step of:  
making a deposit in the user's account.

88. A method in accordance with Claim 84 wherein  
making several field evaluations comprises:

45 optically recognizing a MICR line amount; and  
extracting a dissected image of a date amount  
recognition line.

89. A method in accordance with Claim 85 wherein  
the arbitration step comprises:

50 inputting a CAR recognition result into a weighted  
confidence algorithm for the CAR;

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inputting a LAR recognition result into a weighted confidence algorithm for the LAR; and

90. A method in accordance with Claim 84 comprising:

performing a date amount recognition.

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